



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,675	06/25/2003	Srinivasan Venkatesan	OBC-110.1	3783

7590 03/01/2007
SCHLAZER, PHILIP
Engergy Conversion Devices, Inc.
2956 Waterview Drive
Rochester Hills, MI 48039

EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
----------	--------------

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/603,675

Applicant(s)

VENKATESAN ET AL.

Examiner

Laura S. Weiner

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. The nonstatutory obviousness-type double patenting of claims 15-18 as being unpatentable over claims 1-5, 7 of U.S. Patent No. 6,617,072 has been withdrawn because of the amendment to the claims.

The nonstatutory obviousness-type double patenting of claims 15-18 as being unpatentable over claims 1-5, 7 of U.S. Patent No. 6,617,072 in view of Lichtenberg et al. (5,500,309) has been withdrawn.

Claim Rejections - 35 USC § 112

2. Claims 15 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is rejected because it is unclear where the "cobalt or cobalt oxide material" is present in the cell.

Claim 20 is rejected because there is no antecedent basis for "The electrochemical device of claim 1". Claim 1 is "an active electrode composition". Also, there is no antecedent basis for "wherein at least 90% wt of the particles are greater

Art Unit: 1745

than 15 microns". There is no particles cited in claim 1. Also, it is unclear what is meant by "at least 90% wt". This claim is vague and indefinite and does not further limit claim 1 from which the claim depends from.

Claim Rejections - 35 USC § 103

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckesser et al. (6,436,575) over Lichtenberg et al. (5,500,309).

Weckesser et al. teaches in the abstract, a positive electrode for a rechargeable battery comprising a substrate comprising a coating of nickel hydroxide and a binder, preferably a styrene-ethylene/butylenes-styrene triblock copolymer binder. The coating is formed by applying a paste to the substrate surface. Weckesser et al. teaches in column 2, line 48 to column 3, line 15, a positive electrode for a rechargeable battery comprising a an electrically conductive substrate comprising a coating of nickel hydroxide active material co-precipitated with zinc and cobalt and a binder, preferably a styrene-ethylene/butylenes-styrene triblock copolymer binder. The coating can additionally comprise additives of nickel, nickel hydroxide, cobalt, cobalt oxide, cobalt hydroxide, carbon, graphite, zinc oxide or zinc hydroxide or combinations thereof. Weckesser et al. teaches in column 5, lines 34-40, that nickel powder, graphite, etc. can be used as additives to increase conductivity and that any cobalt compound that can be converted upon charging to cobalt oxyhydroxide such as cobalt oxide can also be used as an additive to increase conductivity. Weckesser et al. teaches in column 5, lines 54-65, that the coating is formed from a paste comprising a powder mixture comprising the

Art Unit: 1745

co-precipitated nickel hydroxide and cobalt oxide and 10-50 percent by weight of nickel powder additives and a binder and a solvent. Weckesser et al. teaches in column 3, Figure 5, a graph plotting discharge midpoint voltage of a NiMH AA cell with the positive electrode.

Weckesser et al. discloses the claimed invention except for specifically teaching that the graphite has a crystallite size L_c of at least 125 nm or at least 175 nm, the graphite has an interlayer distance between 0.335 nm and 0.345 nm; and that the graphite material has a BET surface area less than 15 square meters per gram.

Lichtenberg et al. teaches in column 2, lines 39-50, an accumulator having a positive nickel-hydroxide electrode, a negative electrode comprising a hydrogen storage alloy and an alkaline electrolyte, wherein the nickel hydroxide is admixed with graphite. Lichtenberg et al. teaches that the chemical resistance of the graphite used is predominantly based on its high degree of crystallinity. The crystallite sizes of at least 180 nm and preferably of at least 200 nm are suitable and the BET area of the material should be less than 6 m²/g. Lichtenberg et al. teaches in column 2, lines 20-25 and 39-41, that this will provide an alkaline Ni/metal hydride accumulator which can withstand the high temperature short circuit (HTSC) test which is conventionally performed by battery customers in the industry. Lichtenberg et al. teaches in column 5, lines 1-7, that the graphite is admixed in a proportion by weight of between 1 and 25%, preferably 15%.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use graphite having a high degree of crystallinity where the

Art Unit: 1745

crystallite sizes of at least 180 nm and preferably of at least 200 nm, and the BET area of the material should be less than 6 m²/g because Lichtenberg et al. teaches that this will provide an alkaline Ni/metal hydride accumulator which can withstand the high temperature short circuit (HTSC) test which is conventionally performed by battery customers in the industry.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

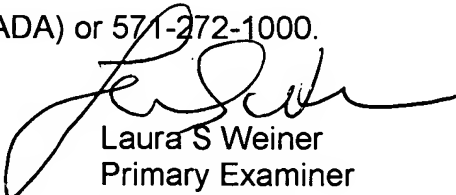
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

Art Unit: 1745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner
Primary Examiner
Art Unit 1745

February 26, 2007